

## CLAIMS:

1. A method of generating a multi carrier quadrature amplitude modulation (QAM) signal comprising:

5 creating a plurality of composite amplitude modulated QAM signals each using two carriers of the same frequency wherein the two carriers are distinguished by having a phase difference of 90 degrees;

wherein the QAM signals are of the same modulation;

wherein the QAM signals have symbol clocks which are of the same data rate and locked in phase;

10 summing the QAM signals to form a composite multi carrier QAM signal;

and amplifying the signal in a power amplifier for transmission;

wherein there is provided a symbol delay on one or more QAM signals prior to the signals being summed where the delay is computed such that peak QAM power transitions in the QAM signals statistically do not align in time.

15 2. The method according to Claim 1 wherein the delay is arranged according to the equation: the additional delay for each QAM signal is equal to the symbol rate of the QAM signals divided by the number of QAM signals in summation.

20 3. The method according to Claim 1 wherein the delay in is performed at any point the modulation process of the QAM signal.

4. The method according to Claim 1 wherein the delay in is performed immediately prior to summation of the QAM signals.

5. The method according to Claim 1 wherein the delay in is performed in the RF stage of the composite QAM signal transmission.

6. The method according to Claim 1 wherein the carriers of the QAM signals are of equal level.